

REMARKS

In the Official Action, the Examiner rejected claim 11 under the first paragraph of 35 U.S.C. §112 and also rejected various groups of claims (except claim 10) as allegedly being anticipated by DeBoer et al., U.S. Patent No. 6,110,645, or as being obvious over this patent combined with Vermeersch et al., U.S. Patent No. 6,210,857, or newly cited Inno et al., U.S. Patent No. 6,500,599.

By the present Amendment, claim 11 has been amended to specify that the hydrophilic resin contained in the water-receptive layer does not contain a cross-linking agent and is not cross-linked which should meet the §112 rejection, particularly in light of the Examiner's statement bridging pages 2 and 3 of the Action. As to the rejections based on DeBoer et al., applicant initially notes that the present invention relates to a heat-sensitive lithographic printing plate precursor having on a support (1) an ink-receptive layer comprising an oleophilic organic high molecular compound and (2) a water-receptive layer easily allowing removal by a fountain solution or printing ink when heated, which are present in the defined order, with the water-receptive layer being a layer formed using a coating solution comprising a solvent capable of dissolving the organic high molecular compound of the ink-receptive layer in a proportion of 1 to 40 wt. % of the total solvent in the coating solution. The claimed solvent provides an important effect in the present invention in that it enables the water-receptive layer and the ink-receptive layer to be dissolved at the interface between the layers or permits the water-receptive layer to penetrate into the interface of the ink-receptive layer that is swollen by the solvent and the adhesion between the two layers is thereby increased relative to the situation wherein the

defined solvent is absent. As explained in the previous Amendment, such advantageous result can be understood by comparing the Inventive Examples with Comparative Examples 1 and 2 on pages 38 and 39 wherein the solvent capable of dissolving the organic high molecular compound of the ink-receptive layer is absent and background stain occurred in a relatively short printing period.

Applicant respectfully maintains that DeBoer et al. does not meet or render obvious any of the claims of record. The patent does not seek to use a solvent for the top layer which is capable of dissolving the organic high molecular compound of an ink-receptive layer, and also does not inherently provide this feature of the present invention. In particular, the Examiner has again referred to Example 3 and contended that the ethanol used therein meets the claimed solvent. In maintaining the rejection, the Examiner requested an English translation of the Japanese literature reference provided with the previous Amendment.

Pursuant to the request by the Examiner, provided herewith is an English translation of relevant parts of the previously submitted Japanese document with the translated parts indicated on a further copy of the Japanese document. As can be understood therefrom, the solubility of nitrocellulose depends on the nitrogen content and therefore from the description provided in DeBoer et al., one cannot definitively determine if the disclosed nitrocellulose is soluble in ethanol.¹ Furthermore, DeBoer et al. certainly does not seek to

¹ The Examiner is respectfully reminded that in order to rely on inherency, the alleged inherent feature must be a necessary result and not merely a possible result. *See, e.g., Ex parte Keith*, 154 USPQ 320 (Bd. App. 1966), *Continental Can Co. v. Monsanto Co.*, 20 USPQ2d 1746 (Fed. Cir. 1991) and *Ex parte Levy*, 17 USPQ2d 1461 (BPAI (continued...))

dissolve the nitrocellulose and unquestionably does not recognize the results which can be obtained therefrom. In this regard, the aforementioned illustrative and Comparative Examples clearly show that the defined solvent has an effect on the final product that is not present when the defined solvent is absent. Therefore, even if a product-by-process situation exists, the evidence of record supports the understanding that the process provides a substantially different product than what can be obtained in the absence of the defined solvent.

Since the rejection based on DeBoer et al. alone cannot stand, the combination of this patent with Vermeersch et al., which has been relied on to show a cross-linked polymer, does not overcome the deficiencies discussed above and therefore claims 2-4 are also patentable. This same rationale is applicable to the alternative combination of DeBoer et al. and Inno et al. which has only been relied on to teach a protective covering. Furthermore, since Inno et al. is only superficially available as "prior art" under 35 U.S.C. §102(e), applicant respectfully points out that **applicant was under an obligation of assignment to the same assignee of Inno et al. at the time the present invention was made.**² Therefore, pursuant to the provisions of 35 U.S.C. §103(c), this provides a further reason as to why this rejection cannot stand.

For all the foregoing reasons and based on the claims and evidence of record, applicant respectfully submits that the presently claimed invention is patentable in all

¹(...continued)
1990).

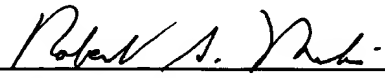
² In accordance with the provisions of MPEP §706.02(l)(2), this statement should be sufficient to establish common ownership.

regards and therefore requests reconsideration and allowance of the present application.

Should the Examiner wish to discuss any aspect of the present application, she is invited to contact the undersigned attorney at the number provided below.

Respectfully submitted,

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Date: August 6, 2003



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Chemical Handbook (application) Second Edition, 1965, pages 1042 to 1043 (marked-up portion)

Among the nitric acid esters of carbohydrates, nitrocellulose (NC) has industrial importance. Though NC can theoretically be the trinitrate ester (14.14% in terms of nitrogen content) through the esterification of all the three hydroxy groups in the glucose unit of cellulose, it is difficult to obtain esters with a nitrogen content of 14% or higher. The properties of nitrocellulose are closely related to its nitrogen content (N%): moisture absorption (at 25°C): W can be expressed by $(W\% = 14.5 - N)$, the heat of formation: HF by $(HF [\text{cal/g}] = 1409.7 - 62.3N)$, and the heat of combustion: HC by $(HC [\text{cal/g}] = 4173.7 - 141.3N)$, respectively. How the solubility and application of nitrocellulose depends on the nitrogen content are shown in Table 17.3.



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Table 17.3 Nitrogen content, properties and applications of nitrocellulose

Nitrogen content [N %]	Solubility				Viscosity of Ether/ethanol solution	Application
	Acetone/ethyl acetate [%]	Ether/ethanol (2:1 in volume) [%]	Anhydrous ethanol [%]	Nitroglycerin		
13.1 to 13.4	95 to 100	Insoluble	Insoluble	Insoluble	-	Bursting charge, smokeless gunpowder
12.8 to 13.1	95 to 100	30 or less	Insoluble	Insoluble	-	Bursting charge, smokeless gunpowder
12.5 to 12.8	95 to 100	50 or less	Insoluble	Insoluble	-	Smokeless gunpowder
		50 to 95	10 or less	Insoluble	High	Smokeless gunpowder
		95 to 100	10 or less	Insoluble	High	Smokeless gunpowder
12.0 to 12.5	95 to 100	95 to 100	50 or less	Slightly soluble	High	Smokeless gunpowder, collodion
11.0 to 12.0	95 to 100	95 to 100	50 or less	Highly soluble	High	Dynamite
			50 or less	Slightly soluble	Very low	Film
			50 to 100	Slightly soluble	Low	Celluloid
10.0 to 11.0	95 to 100	80 to 100	50 or less	Slightly soluble	Low	Celluloid, lacker
9.0 to 10.0	30 to 90	30 to 90	Insoluble	Insoluble	Low	No application